

In Pitel's circuit, the inverter is self-oscillating by way of direct positive feedback from his LC circuit, without the imposition of any other frequency-determining element or mechanism. That is, the only frequency-determining element in Pitel's self-oscillating inverter is the natural resonance of his LC circuit.

In other words, Pitel's self-oscillating inverter will automatically cause the inverter to oscillate -- not below, not above -- but at the natural resonance frequency of his LC circuit.

In Applicant's circuit, on the other hand, the frequency of inverter oscillation is co-determined by the saturation characteristics of the saturable current feedback transformers 47 and 49. When the saturation time of each of these saturable transformers is shorter than a complete half-cycle of the LC circuit's natural resonance frequency -- which it is clearly shown to be in Fig. 3B -- the resulting inverter frequency will be higher than the natural resonance frequency of the LC circuit.

Examiner rejected claims 22-23 under 35 USC 103 as being unpatentable over Pitel '711 in view of Pitel '478.

Applicant traverses the rejection of claim 23 for the following reasons.

(b) Claim 23 provides for a feature whereby:

"the output voltage has a substantially sinusoidal waveform".

This feature is neither described nor suggested by either of the Pitel references.

In the Pitel circuits, a squarewave AC voltage is applied across the series-resonant LC circuit. As a result -- due to the resonance effect -- the current through both the tank inductor and the tank capacitor will be substantially sinusoidal. Moreover, the voltage across the tank capacitor will be substantially sinusoidal. However, the voltage across the tank inductor will not be sinusoidal. Instead, the voltage across the tank inductor will be the (vectorial) sum of the sinusoidal capacitor voltage (i. e., the one present across the tank capacitor) and the squarewave AC voltage.


CONCLUDING REMARKS

To overcome Examiner's rejection of claims 1, 8-9, 19-22 and 24, Applicant has amended claims 1, 11-12 and 19 so as to clearly distinguish over the Pitel references. Also, Applicant has added new claims 25-27.

With reference to the arguments provided in sections (a) and (b) hereinabove, it should now be clear that the amended claims as well as the new claims are patentably distinct over the teachings of Pitel.

All the currently amended claims are presented by way of the attached document entitled "AMENDED CLAIMS in Serial No. 07/579,569".

Also attached is a check (#3855) for \$80.00 to cover the fee for the additional claims.



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